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etc. So, likewise, you are correct in placing *Hilaria* in Paniceae—tribe Zoysieae, according to Bentham.”

There are three described species of *Pleuraphis* from the Southwest:

1. *P. Jamesii*, Torr., in Ann. Lyc., N. Y., i, 1824, p. 148 t. 10. M. E. Jones has distributed this in his Colorado collections.

2. *P. mutica*, Buckley in Proc. Acad., Phil., 1862, p. 95. There are specimens of this in the Herb. Acad. Phila., and I have specimens collected by Frank Tweedy in Tom Green County, Texas, 1880. Nos. 760 and 2108 of C. Wright are the same (Gray in Proc. Acad. Phil., 1862, p. 335.)

3. *P. rigida*, Thurber, Gram. Mex. Bound, ined., published in Bot. Cal. ii, p. 293. It is No. 494 of E. Palmer's collection, 1877.

These three species are now placed in the genus *Hilaria*, and if due credit is to be given their authors they should be written *Hilaria Jamesii*, (Torr.) Benth., *H. mutica*, (Buckley) Benth., and *H. rigida* (Thurb.) Benth.

Hilaria cenchroides, H.B.K. The single species heretofore included in this genus was distributed with E. Hall's Texan plants, No. 846, and it is in Pringle's sets of Pacific Slope Plants, collected in Arizona, near Camp Lowell, July, 1881.

F. LAMSON SCRIBNER.

Theory of Lichens.—Dr. J. Müller of Geneva, Switzerland, has recently pointed out an interesting confirmation of Dr. Minks's theory of lichens in a Brazilian *Coenogonium*. In this genus, one or more species of which occurs in the Southern States, the gonidial system is composed of a series of green cells contained in a longitudinal central tube, and surrounded by slender colorless filaments; the former corresponding, in the Schwendener theory, to the algoid element, and the latter to the fungoid. In the new species, *C. pannosum*, Müll., Arg. in *Flora*, 1881, p. 234, a filament of the latter kind was found in a portion of its length to contain gonidia resembling those of the algoid tube, but at a certain point it suddenly contracted to the form of a cone a little longer than broad, and continued as a slender capillary tube, in which the internal cavity was continuous with that of the larger portion; and in this portion of it were clearly perceived the microgonidia in their natural form, size and arrangement.

It follows from this, says Dr. Müller, that one and the same cell, at one end enlarged and bearing gonidia, would be the theoretic alga, and at the other contracted and containing microgonidia would be the theoretic fungus, proving absolutely the falsehood of the theory, all is lichen, and only lichen, and both sorts of tubes, so different at first sight, are only different states of evolution of one and the same organ.

New Bedford, Mass.

H. W.

New Station for Arceuthobium.—Central New York has, in days gone by, been the home of many prominent botanists, and a new discovery in this section is of rare occurrence. I have the

pleasure of announcing a discovery of my own. On May 28th and June 25th, 1881, I detected *Arceuthobium pusillum*, Peck, growing very abundantly on *Abies nigra* in the Graefenberg swamps on the heights of Frankfort, Herkimer County, N. Y., about six miles S. E. of Utica. My surprise was great, inasmuch as the same region had been most thoroughly explored years ago, as shown by the record in Paine's Catalogue. Prof. Asa Gray, Drs. Vasey and Knieskern, John A. Paine, Jr., Edwin Hunt and others were all probably well acquainted with the locality, and it is truly remarkable that the plant should have been overlooked by them, since its great abundance now, indicates that it has had its home there for years. Suspicion alone on my part led to its discovery. I had received specimens from Oswego County from my friend Rev. J. H. Wibbe, and, when his locality was made known to me, I suspected that the plant might grow nearer home. In 1879 I looked for it in N. Herkimer and Hamilton Counties but failed to find it; but last year I made a special effort and succeeded. It was an easy discovery, however, as almost the first spruce that I examined was literally covered with it. The pistillate plants were the most abundant, and some of them measured nearly an inch in length. The plants were not confined to stunted trees, but were found sparingly on the lower branches of healthy ones. I noticed that all growths of from five to fifteen feet high were favored, especially where the tops had been broken off; and new shoots in a circle at the tops were completely covered. I thought at the time that *Abies alba* and *A. balsamea* might be affected in the same way, but was prevented by ill health from making the investigation, and was unable for the same reason to discover any other station. As, in this immediate vicinity, there are other localities almost identical, I think that another season will show the plant to be more widely distributed, and to grow in Oneida County as well.

Utica, N. Y.

JOSEPH V. HABERER.

Note on Oregon Grasses.—The two grasses here named were collected by Mr. C. G. Pringle at Roseburg, Oregon, Oct. 2d, 1881.

Gastridium australe, P. B. (Thurber in Bot. Cal. ii, page 275).—Dr. Thurber states, upon the authority of Mr. Bolander, that this grass is common in California on the coast, and "late in the season covers the dry hills everywhere." I am not aware of any record having been made of its occurrence in Oregon.

Aristida oligantha, Mx. (Gray., Man. 5th ed., p. 618).—The awns are a little shorter than in specimens from the Eastern States, and both the glumes and florets are deeply colored with purple. This grass has not before been reported west of Colorado.

F. LAMSON SCRIBNER.

Design of some Leaf-forms.—Most aquatic plants are so formed that they offer but little resistance to moving waters. Many species of *Potamogeton*, *Isoetes*, *Chara*, *Nitella*, and algae have filiform leaves or stems (or both), which offer but little resistance to changing currents of water. *Ranunculus aquatilis* and *Potamogeton* (a dozen